

Human Angiotensinogen / SerpinA8 / AGT Protein (His Tag)

Catalog Number: 10994-H08H



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

ANHU; SERPINA8; AI265500; AngI; AngII; Aogen; Serpina8

Protein Construction:

A DNA sequence encoding the human angiotensinogen (NP_000020.1) (Met 1-Ala 485) was fused with a polyhistidine tag at the C-terminus.

Source: Human

Expression Host: Human Cells

QC Testing

Purity: > 98 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Asp 34

Molecular Mass:

The recombinant human angiotensinogen comprises 463 amino acids and has a calculated molecular mass of 51.2 kDa. As a result of glycosylation, the apparent molecular mass of rh angiotensinogen is approximately 55-60 kDa in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

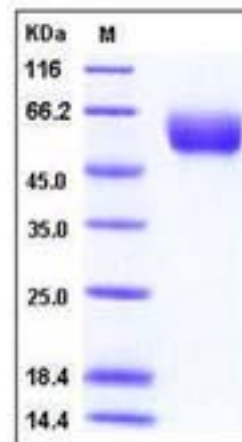
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Angiotensinogen, also known as AGT and SerpinA8, is a member of the serpin family. It is an α_2 -globulin that is produced constitutively and released into the circulation mainly by the liver. Angiotensinogen is an essential component of the renin-angiotensin system (RAS) and a potent regulator of blood pressure. Angiotensinogen can be schematically considered to consist of a combination of an angiotensin I (Ang I) function, located at the N-terminal end, and the presence of a serpin (serine protease inhibitor) structure at the opposite end. Angiotensinogen is cleaved into three chains: Angiotensin-1 (Ang I), Angiotensin-2 (Ang II), and Angiotensin-3 (Ang III). Angiotensin-1 is a substrate of ACE (angiotensin converting enzyme) that removes a dipeptide to yield the physiologically active peptide angiotensin-2. Angiotensin-1 and angiotensin-2 can be further processed to generate angiotensin-3, angiotensin-4. Angiotensin 1-7 is cleaved from angiotensin-2 by ACE2. Angiotensin-2 acts directly on vascular smooth muscle as a potent vasoconstrictor, affects cardiac contractility and heart rate through its action on the sympathetic nervous system. Defects in AGT are associated with susceptibility to essential hypertension and renal tubular dysgenesis (RTD). Several serpins (antithrombin, maspin, pigment epithelial-derived factor, and kallistatin) have been recently shown to exert an antiangiogenic activity, suggesting a common mechanism of endothelial cell proliferation and migration. Angiotensinogen/AGT and its renin-cleaved product, des(Ang I)AGT, are also angiogenesis inhibitors, both in vitro and in vivo at concentrations within the range of those observed in plasma. The Angiotensinogen products, that is angiotensin II and possibly angiotensin II-related products, have been found to act locally in modulating adipose tissue growth in an autocrine/paracrine manner. The transient or chronic overexpression of angiotensinogen in adipose tissue favors lipogenesis in adipocytes and leads to a 'vicious' circle whereby adipose tissue development is further increased.

References

1. Ailhaud G, et al. (2002) Angiotensinogen, adipocyte differentiation and fat mass enlargement. *Curr Opin Clin Nutr Metab Care*. 5(4): 385-9.
2. Corvol P, et al. (2003) Inhibition of angiogenesis: a new function for angiotensinogen and des(angiotensin I)angiotensinogen. *Curr Hypertens Rep*. 5(2): 149-54.

Manufactured By Sino Biological Inc., FOR RESEARCH USE ONLY. NOT FOR USE IN HUMANS.

Fax :+86-10-51029969 • Tel:+86-400-890-9989 • <http://www.sinobiological.com>